A COMPARATIVE STUDY OF POPULATION CHARACTERISTICS AND CAPACITY ASPECTS OF DEMENTIA CARE BETWEEN THE NURSING HOME AND HOSPITAL NURSES IN HANOI, VIETNAM

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Nurses play an important role in dementia care delivery in hospitals and communities. Exploring nurses' capacity aspects in dementia care such as knowledge, attitudes, and confidence is essential for developing appropriate health professional education to achieve optimal care in different aged care facilities. This cross-sectional study aimed to describe and examine the differences in population characteristics and dementia care capacity between the nursing home and hospital nurses in Hanoi, Vietnam from January to March 2023. Data were collected using three self-administered questionnaires: The Dementia Knowledge Assessment Scale (DKAS), the Dementia Attitude Scale (DAS), and the Confidence in Dementia Scale (CODE). The number of nursing home and hospital nurses completing the survey was 111 and 158 respectively. There were no statistically significant difference in the mean of the total knowledge score and attitude score between the two nurse groups. Hospital nurses were more knowledgeable about the dementia pathology and health promotion, whereas nursing home nurses had a better understanding of communication and dealing with behavioral difficulties in patients, as well as having more confidence ($p<0.05$). Different professional training for different types of facilities should be developed and implemented to achieve qualified dementia care.

Keywords: Dementia care, knowledge, attitude, confidence, nursing home, comparison.

I. INTRODUCTION

Dementia is one of the major causes of disability and dependency among older people and the seventh greatest cause of death.[1] Especially in low- and middle-income countries, in addition to the lack of public knowledge and understanding of dementia, stigma also exists and hinders timely diagnosis by healthcare professionals in primary care settings as well as effective care coordination between healthcare facilities and social support networks.[2] Vietnam is a typical developing country with a low-resource healthcare system where the stress of family caregiving may be amplified by a lack of community resources, cultural stigma discouraging the seeking of outside help, and the costs of care.[3,4] According to estimates, Vietnam had 660,000 dementia sufferers in 2015, and dementia-related expenses totaled US $ 960 million.[5] [6] Aside from big cities like Hanoi, Ho Chi Minh City, and Da Nang, dementia-specific healthcare facilities are scarce in the majority of the country. There is inadequate education available for healthcare professionals in dementia diagnosis and treatment.[7]

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In terms of dementia care, person-centered care (PCC), also known as patient-centered care, is a sociopsychological treatment approach that recognizes the individuality of the patient in relation to the attitudes and care practices that surround them.[8] Family, caregivers and the person with dementia (when possible) should always be involved in drafting a care plan based on person-centered care.[9] In clinical practice, PCC includes incorporating personal knowledge of the person with dementia, engaging in meaningful activities, prioritizing well-being, and enhancing the healthcare provider - patient relationship.[10,11] In the PCC support teams, nurses play an essential part because their responsibilities include dementia recognition, management and reducing the burden on caregivers.[12] Acute care setting nurses are known for their role in preventing adverse events and improving patient experiences and outcomes.[13] And nursing home staff took over almost half of nursing home residents' ADL and IADL in the daily activities.[14]

Regarding long-term care models, most elderly care services are provided primarily by family members who are largely uneducated or supported by outsiders. Family-based care is increasingly decreasing and insufficient.[15] Up to now, the non-family long-term care models in Vietnam as well as Hanoi have been quite diverse, including types of social and medical care.[15,16] In particular, key non-family long-term care sources are nursing homes, nursing centers, rehabilitation hospitals, geriatric hospitals and general hospitals with geriatric departments, all of which employ nurses as the primary care workforce.[17] However, information about the nurses' demographic characteristics, dementia care capacity as well as difference in between these facilities, is lacking. Knowing the capacity of different aged care facilities, especially between public and private units, is essential to develop unit-tailored interventions to achieve optimal dementia care. Therefore, the present cross-sectional study aimed to compare population characteristics and knowledge, attitudes, and confidence in providing dementia care between nursing home and hospital nurses in Hanoi, Vietnam.

II. MATERIALS AND METHODS

Study Setting and study population

The survey among nurses employed in selected nursing homes and geriatric units in Hanoi was conducted from January to March 2023. All full-time nurses for at least 1 month currently working in six nursing home facilities (Nhan Ai Elderly Care Center, Orihome Elderly Care Center, and 4 facilities of Dien Hong Nursing Center), two geriatric departments of general hospitals (Dong Da provincial hospital and E central hospital), and 12 clinical departments of the National Geriatric Hospital were eligible to participate in the study. A total of 313 nurses worked at these healthcare facilities when the survey was carried out.

Data collection activities

Data collection was conducted from January to March 2023. Investigators explained the study protocol and invited all 313 nurses to participate in the survey. If nurses agreed to join, their signed consent forms were obtained and stored in a separate folder by investigators. The anonymous self-administered questionnaires were hand-delivered to participants and it took an average of approximately 30 minutes for a nurse to complete the questionnaire. In order to minimize missing data, the answer sheets were checked for completeness by investigators and then re-completed by the nurses if any information was missing before being collected and sealed. A small financial incentive was offered for each nurse as an appreciation for their participation.

Measures and Instruments

A self-administered questionnaire, which included five major sections on respondent sociodemographic characteristics, dementia-related experience, knowledge about dementia, attitude toward dementia care, and confidence in dementia care was used for all data collection activities in the present study.

(1) Sociodemographic information:

Age, sex, living area (rural, urban), the highest level of nursing degree (2-year Diploma, 3-year Bachelor of Nursing- BN, 4-year Bachelor of Science in Nursing- BSN, Master of Science in Nursing or Clinical Nurse Specialist- MSN/ CNS), position title (nurse staff, chief nurse), average number of patients seen in daily care, and time (in years) of nursing experience.

(2) Training and experience related to dementia:

Percentage of patients with dementia among the total number of patients the participant cared for on a daily basis: rare (0-20%), less than half (21-49%), one-half to three quarters (50-74%), or most (75-100%).

Previous training related to dementia that nurses had received in the college (yes/no) and in the workplace (yes/no) in the five areas of neuroscience, psychiatry, geriatrics, dementia pathology, and dementia hands-on care for patients with dementia.

Dementia information-seeking actions taken by participants (yes/no) through Google keywords, hospital websites, guidelines of the Vietnamese Ministry of Health, dementia organizations websites, medical textbooks and consulting information from experts such as specialist doctor and nurse.

Time (in years) spent providing dementia care.

Current confidence in dementia knowledge as self-rated by the nurses. The rating score ranges from 0 to 10 points. The higher the rate, the more self-confident they are in their knowledge.

Current desired level of dementia training as self-reported by the nurses. The score ranges from 0 to 10 points. The higher the score, the more they want to be trained in dementia.

(3)(4)(5) Knowledge, Attitude, and Confidence in dementia care

The Dementia Knowledge Assessment Scale (DKAS 2.0) is a reliable and valid measure of dementia knowledge across four domains: causes and characteristics (7 items), communication and behavior (6 items), care consideration (6 items), and risk and health promotion (6 items).[18] Response options are rescored to fully correct (2), partly correct (1), or incorrect (0) and added to calculate a total score ranging from 0 to a maximum score of 50.[19] The higher the final score, the greater the individual knowledge about dementia.

The Dementia Attitude Scale (DAS) was used to assess nurses' attitudes toward dementia care. It has a two-factor structure with the first factor covering "dementia knowledge" (cognitive items) and the second factor covering "social comfort" (affective and behavioral items forming a single factor).[20] The instrument consists of 20 items on a seven-point Likert scale. Six items were reverse-scored (2, 6, 8, 9, 16, 17). The total scores achievable for this scale range from 20 to 140, with a higher score indicating a more positive attitude toward the provision of dementia care.

The Confidence in Dementia (CODE) scale consists of 9 items and was used to measure confidence in working with people with dementia. It is scored on a five-point Likert scale with anchored ratings of 9-18 points - "not confident", 19-35 points - "somewhat confident",

and 36-45 points - "very confident". The total scores range from 9 to 45, with a higher score representing better confidence in providing dementia care.[21]

The three scales DKAS, DAS, and CODE were translated from English to Vietnamese. First, we conducted a forward-backward translation from English into Vietnamese involving an English translator and a representative sample of geriatricians and nurses. Secondly, we pilot tested the Vietnamese version of the scales among a small sample of 15 nurses and conducted a post-pilot review among the research team to finalize the study questionnaire. Data of these participants were not included in the final dataset.

Data analysis

Stata software version 15.0 was used for data analysis. Continuous variables were reported by means (SD) and categorical variables were summarized as percentages. Student t-tests were used to test the differences in means of continuous variables such as age, experience years, and self-rated scores; while Chi-square or Fisher's exact tests were used to test the association between categorical variables.

Ethical considerations

The study was approved by the Hanoi Medical University Institutional Ethical Review Board on March 14, 2023 (786/IRB HMU).

III. RESULTS

Out of a total of 313 nurses invited, 273 participated in the study and 269 of them completed all assessments and were included in the analysis (response rate 86%).

1. Demographic characteristics among two nurse groups

Table 1. Demographic characteristics among nurse groups

		Nurse in nursing homes (n = 111)	Nurses in hospitals (n = 158)	p
		%	%	
		41.3	**58.7**	
Sex	Female	74.8	81.6	0.175
Living area from childhood to high school	Urban	13.5	37.3	**< 0.001**
Living area after high school until now	Urban	78.4	80.4	0.689
Highest qualification of nursing degree	2-year Diploma	27.0	1.3	**< 0.001**
	3-year BN	50.5	58.9	
	4-year BSN	20.7	36.1	
	+2 years MSN/CSN	1.8	3.8	
Position	Chief nurse	20.7	7.6	**0.002**

	Mean ± SD	Mean ± SD	p
Age (year)	29.12±7.87	32.84±5.51	**< 0.001**
Number of patients (person)	20.91±23.66	7.48±6.35	**< 0.001**
Seniority in healthcare (year)	2.98±5.01	8.71±5.23	**< 0.001**

Table 1 shows that in both groups, most nurses were female and lived in urban areas from after high school until the time of the study.

Regarding the demographic differences between the two groups, there were statistically significant differences in childhood living area, professional qualifications, chief nurse distribution, age, number of patients and seniority in the field of health care ($p<0.05$). Very few nursing home nurses had lived in urban areas during their childhood. Most nursing home nurses had Diploma's and Bachelor's degrees in Nursing while Bachelor of Science and Bachelor of Nursing degrees were common degrees accepted in hospitals. Hospital nurses have a higher average age and seniority than nurses working in nursing homes, while the data is contrary to the number of patients they have to care for, with nursing home nurses having to care for nearly three times as many as hospital nurses.

2. Dementia-related experience among two nurse groups

Table 2. Dementia-related training and experience characteristics among nurse groups

			Nurse in nursing homes (n=111)	Nurses in hospitals (n=158)	p
			%	%	
Percentage of dementia patients	Rare (≤ 20%)		11.7	24.7	**< 0.001**
	Less than half (21%-49%)		21.6	46.2	
	Half or more (50%-74%)		41.4	26.6	
	Most (75%-100%)		25.2	2.5	
Dementia-related training in the undergraduate level (college, university)					
Trained in neuroscience		Yes	62.2	75.3	**0.021**
Trained in psychiatry		Yes	62.2	69.0	0.244
Trained in geriatrics		Yes	49.5	67.1	**0.004**
Trained in dementia pathology		Yes	43.2	50.6	0.232
Trained in dementia hands-on care		Yes	43.2	53.2	0.109

		Nurse in nursing homes (n = 111)	Nurses in hospitals (n = 158)	p
		%	%	
Dementia-related training in the workplace				
Trained in neuroscience	Yes	37.8	47.5	0.117
Trained in psychiatry	Yes	30.6	44.3	**0.023**
Trained in geriatrics	Yes	47.7	84.2	**< 0.001**
Trained in dementia pathology	Yes	45.9	62.0	**0.009**
Trained in dementia hands-on care	Yes	68.5	65.8	0.650
Dementia information seeking channels				
Google	Yes	65.8	56.3	0.120
Hospital websites	Yes	24.3	30.4	0.276
Guidelines of the Ministry of Health	Yes	19.8	17.7	0.663
Dementia organization websites	Yes	22.5	15.2	0.125
Medical textbooks	Yes	37.8	46.2	0.172
Experts/specialists	Yes	18.0	39.2	**< 0.001**
		Mean ± SD	**Mean ± SD**	**p**
Seniority in dementia care (year)		1.79 ± 2.54	3.79 ± 4.03	**< 0.001**
Self-evaluation (0-10)		5.35 ± 2.07	5.04 ± 1.91	0.212
Desired level in dementia training (0-10)		8.10 ± 2.16	7.65 ± 1.90	0.074

In terms of percentage of patients with dementia in the total number patient that nurses have to care for, the majority of nursing home nurses have from 20%-100% of dementia patients with mainly more than half of patients suffering from dementia, while this figure in the hospital ranged from 0-74% with most dementia cases accounting for less than half of all patient ($p < 0.001$).

In the undergraduate level such as college or university, the percentages of training in neuroscience and geriatrics in the hospital nurse group were statistically significantly higher than in the nursing home group ($p < 0.05$). About dementia-related training in the workplace, there was no difference in the percentages of training in neuroscience and dementia hands-on care between the two groups, while the percentages of training in psychiatry, geriatrics and dementia pathology in the hospital nurse group were statistically significantly higher ($p < 0.05$). In particular, dementia-specific training such as hands-on care was more commonly implemented in the workplace at over 65% compared to around 50% at the undergraduate level in both nurse groups, while pathology training for both undergraduate and postgraduate nursing home nurses remained below 50%.

Regarding the habit of looking up information related to dementia, Google is the most popular channel for finding information related to dementia. There was no difference in any channel except for direct consultation with experts, with a higher rate in the group of hospital nurses ($p < 0.001$).

Hospital nurses have longer experience caring for dementia patients than nursing home nurses ($p<0.001$).

In both groups, nurses self-rated their knowledge as relatively modest with mean scores of approximately 5/10 points and were highly eager for dementia-related training with mean scores of approximately 8/10.

3. Knowledge, attitudes, and confidence in dementia care among two nurse groups

Table 3. Knowledge, attitudes, and confidence in dementia care among nurse groups

	Nurse in nursing homes (n = 111)	Nurses in hospitals (n = 158)	p
	Mean ± SD	Mean ± SD	
Knowledge about dementia (max 2 points each item, max 50 points in total)			
Total Knowledge score (25 items)	27.15 ± 7.93	28.79 ± 8.05	0.099
Causes and characteristics (7 items)	5.95 ± 2.87	7.51 ± 3.24	**<0.001**
Risks and health promotion (6 items)	6.68 ± 2.25	7.32 ± 2.58	**0.034**
Communication and behavior (6 items)	6.59 ± 2.73	5.61 ± 2.26	**0.002**
Care considerations (6 items)	7.93 ± 2.81	8.35 ± 2.75	0.223
Attitude toward dementia (max 7 points each item, max 140 points in total)			
Total Attitude score (20 items)	103.44 ± 15.28	101.20 ± 11.77	0.175
Social comfort (10 items)	48.14 ± 8.03	46.75 ± 7.23	0.139
Dementia beliefs (10 items)	55.30 ± 9.94	54.44 ± 7.57	0.425
Confidence in dementia care practice (max 5 points each item, max 45 points in total)			
Total Practice score (9 items)	29.42 ± 6.84	27.44 ± 5.95	**0.012**

Table 3 indicated that there were no difference in the total knowledge, "care consideration" knowledge domain and attitude scores between two nurse groups.

In terms of difference in knowledge domains, hospital nurses showed better performance in understanding the pathology and prevention of dementia ($p < 0.001$ and $p = 0.034$). However, for the domain of "Communication and behavior", nursing home nurses showed more understanding with 6.59 ± 2.73/12 points compared to 5.61 ± 2.26/12 points of hospital nurses ($p = 0.002$).

Regarding confidence when providing dementia care, nursing home nurses self-reported greater confidence with 29.42 ± 6.84/45 points compared to 27.44 ± 5.95/45 points for hospital nurses.

IV. DISCUSSION

Demographic and dementia-related experience among two nurse groups

The difference in professional qualifications and seniority is obvious between the two groups of nurses. Corresponding to the higher age and seniority working in the healthcare field, hospital nurses also have more seniority devoted to caring for dementia patients. This result is also similar to the difference in seniority between employees of the public and private long-term care service systems in Hangzhou city, China.[22] These differences in age and seniority come from certain regulations in recruiting medical employees at each facility. According to regulations of the Ministry of Health, public hospitals recruiting nursing officers require level 4 - diploma nursing candidates to have completed 6 months of internship before being allowed to practice.[23] Meanwhile, there are no mandatory recruitment or internship standards for nursing homes, where recruitment depends not only on job requirements but also on the employer's ability to pay employees.

With a higher frequency of contact with patients with dementia among nursing home nurses (mostly from over 20-100%), the results showed that nursing homes have a high prevalence of dementia and higher rate of patients with dementia than in hospitals. This is also consistent with research by Nguyen Ngoc Bich 2019 with the prevalence of dementia in the community being 46.4% and Tran To Tran Nguyen 2019 with the prevalence among inpatient of geriatric units being 24.3%.[24,25] The reason that may explain the difference comes from the length of inpatient care, because dementia care requires long-term and continuous care, with a lot of focus on maintaining stability and supporting daily living activities for the patient instead of admitting to treat emergency conditions or acute disorders such as delirium and psychosis like usual hospitalization. Thus, without discussing inpatient costs, for dementia care, the nursing home is an ideal choice for patients to live and be monitored when there are no acute or critical conditions. Furthermore, nursing homes need special attention in terms of supporting staff capacity building as well as maximizing cost efficiency because this type is still new in Vietnam and is very necessary in the future.

Regarding the higher rate of dementia-related training at the undergraduate level among hospital nurses, the reason is that most hospital nurses have 3-year BN or 4-year BSN degrees, corresponding to better academic abilities when they take the entrance exam as well as a longer training period of 1-2 years in undergraduate level, thereby having more time and opportunities for dementia training. Particularly in the workplace, hospital nurses have a higher rate of training because they have more opportunities to interact with experts such as doctors, nurses and specialized technicians. This is also consistent with the result that hospital nurses' habit of looking up information through expert consultation is twice as high at 39% compared to nursing homes in Table 2. Furthermore, the specialist's important advisory role within the multidisciplinary care team as well as their management involvement has been demonstrated.[13,26] Thus, it can be seen that hospital nurses can easily access short-term on-site training programs because of the availability of expert resources as mentors. As a result, to facilitate additional training for medical staff, on-the-job training in the workplace and consultant quality assurance within care teams in non-hospital settings should be encouraged.

Knowledge, attitudes, and confidence in dementia care among two nurse groups

Regarding dementia knowledge, there was no difference in the total score between the two groups. However, about domains of the knowledge scale, hospital nurses had higher knowledge scores in pathology and dementia prevention while nursing home nurses had the better result in "communication and behavior". This shows that each facility has certain strengths and weaknesses, specifically in nursing homes, nurses have limited knowledge about dementia recognition and prevention, while dealing with and managing behavioral disorder symptoms in patients is their strength. The reason for this inferiority among nursing home nurses is that dementia pathogenesis and symptomatology are types of academic theoretical knowledge that requires standard curriculum and teaching experts - subjects that are not available in nursing homes. As for communication and behavioral management, this is practical knowledge, meaning nurses can learn and improve themselves every day through caring for large numbers of patients with dementia, gain experience and apply the skills acquired in clinical practice even without formal teachings. Additionally, because nursing home residents often stay longer than hospital residents, nursing home nurses can observe a patient over a long period of time, thereby having time to understand and become more familiar with the patient, leading to increasingly effective communication as well as providing appropriate management, especially for aggressive patients with advanced dementia.[27] From the above distinct characteristics of knowledge, for ensuring the quality of the care team, nursing home nurses need additional targeted training in academic theories to give them a deeper understanding of the mechanisms and characteristics of dementia, thereby creating a premise for absorbing new knowledge as well as deeper understanding of skills practiced every day. In contrast, for hospital nurses who are busy with administrative work and have limited time to interact with patients, training focusing on communication and handling behavioral disorders is necessary and should be implemented early.

Although there is no difference in total and domain attitude scores between the two groups, a low degree of social comfort in attitude toward individuals with dementia was detected, with lower scores in subdomain "Social comfort" compared to "Dementia knowledge." Other research on nurses and caregivers have shown comparable results around the world.[28] [29] [30] These findings indicate that nurses are not very comfortable when providing hands-on care and they tend to avoid contact with patients, especially aggressive patients in advanced stages. This procrastination in care is caused by the nurse's incapacity to understand the patient's behavioral abnormalities, which is rooted in a lack of communication knowledge.[27] [31] [32] Interestingly, our research has demonstrated that the geriatric nursing community is highly desirable for dementia training with approximately 8/10 points, implying that they are a progressive and inquiring workforce willing to participate in future dementia training programs. Based on the foregoing, developing continuing educational interventions in dementia care is both feasible and necessary.

Regarding confidence, compared with the author's classification, the results show that both groups have an average score corresponding to the "somewhat" level, or in other words, not confident. However, when comparing the two groups, nursing home nurses still showed significantly higher levels of confidence, this

shows that despite not having advanced degrees, long seniority or as much training as in the hospital environment, nursing home nurses still have a certain confidence when practicing clinical care for patients. A study by Anthony Scerri 2017 in Malta also found similar results that qualifications were not associated with confidence while higher level nurse positions were associated with higher levels of confidence as measured by the CODE scale.[33] With the percentage of chief nurses nearly three times higher than that of hospitals, this may also be the reason why the average confidence score of nurses at nursing homes was higher. Furthermore, with the high frequency and long-term interactions with dementia cases, the growing confidence of nursing home nurses is well-founded when there is evidence of a Communication and Interaction enhancement intervention model that strengthens confidence.[34] However, like attitude, confidence is measured by a self-reported Likert scale, score inflation is unavoidable due to nurses' fear of being judged as less confident, which is also a very difficult drawback of self-reported Likert scales. Therefore, checklists for evaluating clinical performance in dementia care are ideal for real-world capacity assessment and should be developed in the future.

Strengths

This is the first study to compare the characteristics of nurses working in various care facilities in Vietnam. The study setting includes nursing homes, a relatively new type of aged care facility in Vietnam that has only been developed in three central cities of the country. Furthermore, research has shown the importance of tailored-units training in the context of care facilities that are heterogeneous in size, recruitment characteristics, and operations. The findings also represent the geriatric nursing community's demand for dementia training, indicating that they are a progressive and inquisitive workforce with promise for future dementia training programs.

Limitation

This study has some limitations. The cross-sectional study design limits the ability to establish causal relationships. Secondly, because the study sample included nurses from the national geriatric hospital, their capacity may be superior to the target hospital nursing population in Hanoi as well as in the region and is a limitation on the generalization of our findings. Thirdly, the self-administered questionnaires may result in inaccuracies in knowledge results because nurses choose the correct answer at random rather than honestly replying that they did not know, or positive inflations in attitudes and confidence replies. Checklists for evaluating clinical performance in dementia care are ideal for capacity assessment as well as in real-world practice and should be created in the future. Finally, in addition to the characteristics examined in this study, future research should investigate more environmental determinants and impediments to optimal care practice.

V. CONCLUSION

Hospital nurses have greater age, education level, and seniority in the healthcare as well as dementia care than nursing home nurses.

Nursing home nurses receive and come into contact with a higher percentage of patients with dementia than hospital nurses.

Hospital nurses were more knowledgeable about dementia pathology and health promotion, whereas nursing home nurses had a better understanding of communication and dealing with behavioral difficulties in patients, as well as having more confidence.

RECOMMENDATION

It is necessary to apply interdisciplinary approaches in dementia training in clinical practice for the long-term care workforce from both pharmacological and non-pharmacological standpoints, with a particular emphasis on prioritizing training based on the characteristics of the unit. Specifically, there should be an increased focus on communication skills and handling patient behavioral disorders for hospital nurses, while the dementia pathogenesis and health promotion should be considered emphasized in nursing home nursing training. Further studies are needed to evaluate changes in knowledge, attitudes, and confidence in dementia care as curricular adjustments and counseling are implemented.

Abbreviations

KAC: knowledge, attitude, confidence; NGH: National Geriatric Hospital; BN: three-year Bachelor of Nursing, BSN: four-year Bachelor of Science in Nursing, MSN/CNS: Master of Science in Nursing or Clinical Nurse Specialist; DKAS: Dementia Knowledge Assessment Scale; DAS: Dementia Attitude Scale; CODE: Confidence in Dementia Scale; SD: Standard deviations; IQR: Interquartile range; ADRD: Alzheimer's disease and related dementias.

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